



**2003 AFCEE Technology Transfer Workshop**

San Antonio, Texas

*Promoting Readiness through Environmental Stewardship*

# **Restoration Program Optimization Matrix and Metrics**

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26 February 2003**



# *Overview*

- **Background**
- **RPO Matrix**
- **Basic Information**
- **Costs**
- **Implementation Tracking**
- **Graphical Representation**
- **Root Cause Table**
- **Identify Exit Goal**



# ***RPO Historical Development***

- **Conceptual Development -----1998**
- **Guidance Preparation/Beta Test-----1999**
- **Guidance Revision/Implementation----2001**
- **Matrix and Metrics Development-----2002**



# ***Restoration Program Optimization (RPO)***

## ***Definition:***

### **Iterative Systematic Planning**

**Holistic Evaluation of the Existing Restoration Program with the Goal of Improving Overall:**

- Risk Control Effectiveness
- Timely Site Cleanup
- Cost Effectiveness
- Timely Feedback to Decision Makers

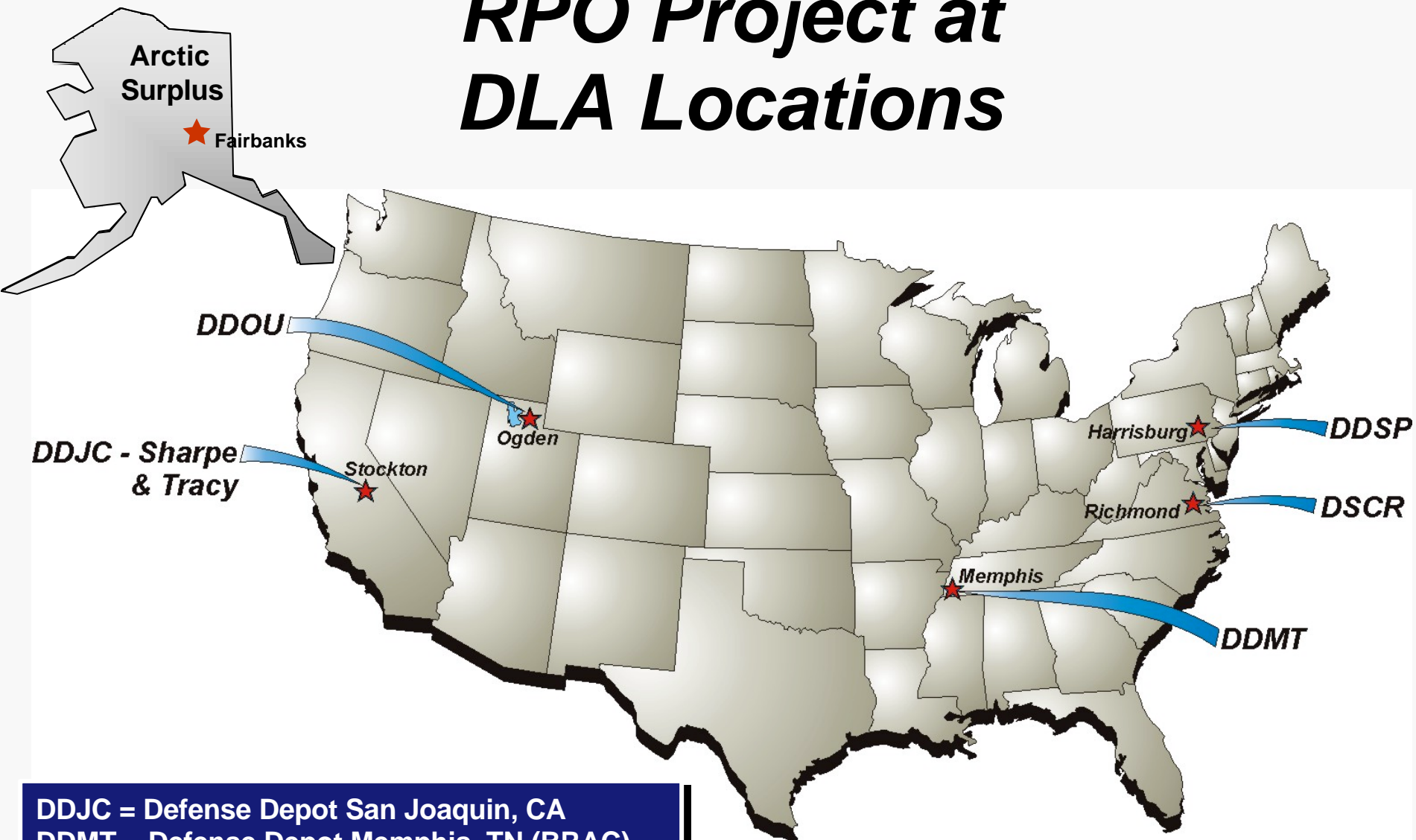




# ***RPO Names***

- **Remedial Process Optimization**
  - **(AFCEE 1999)**
  
- **Remediation Process Optimization**
  - **(ITRC 2002)**
  
- **Restoration Program Optimization**
  - **(DLA 2002)**

# ***RPO Project at DLA Locations***



**DDJC = Defense Depot San Joaquin, CA**  
**DDMT = Defense Depot Memphis, TN (BRAC)**  
**DDOU = Defense Depot Ogden, UT (BRAC)**  
**DDSP = Defense Depot Susquehanna, PA**  
**DSCR = Defense Service Center Richmond**



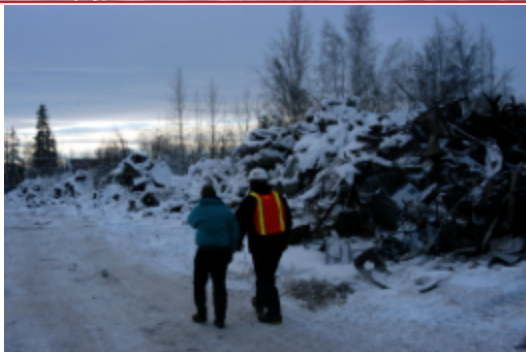
# ***Significant Successes***

- **DDOU – All Operational Unit attained No Further Action (NFA) or Demonstrated that they were Operating Properly and Successfully (OPS)**
  - **Entire Installation was transferred Oct 2002. Returned to productive use**
  - **Created 700 new jobs**



# ***Significant Successes***

**Arctic Surplus Site is being remediated at  $\frac{1}{4}$  of the original proposal cost, in  $\frac{1}{4}$  of the time, and with less restrictive land use controls (LUCs)**



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# RPO Matrix

## Basic Information & Status

Rec Num	RPO Report & Section ID; <b>Recommendation</b>	Status of Recommendation	Action Item (OPR/POC) <b>Action Item RPO Team</b>	FY Program	Projected Outyears
1	RSV Rept July 2001 Sec. 1 - pg 26; <b>Optimize CoC Analyte list for Eskimo Creek</b>	Proposed to regulators (xxx Nov 200x). Letter sent on xxx June 200x. ADEC Approval letter received xxx Sept 200x. Contractor AAA implementing Task.	Base/Hertzog - Present proposal to regulators EarthTech/Manish - Prepare modified LTM work plan and get approval. Implement MOD LTM work plan <b>RPO team - Review Work Plan &amp; provide field oversight</b>	O3	Programed through 2015
2	RSV Rept July 2001 pg 33; Univ of Alaska, Galena Aircraft Maintenance School Air Quality	Accepted for implementation by all stakeholders	Base/Hertzog - Contract AF BEE & request air quality sampling EarthTech/Manish - Sample air and analyze by TO14 <b>RPO team - Review Work Plan &amp; provide field oversight</b>	O3	No outyear work Completion date Sept 2002



# ***RPO Matrix Basic Information***

<b>Rec Num</b>	<b>RPO Report &amp; Section ID; <b>Recommendation</b></b>	<b>Status of Recommendation</b>
1	RSV Rept July 2001 Sec. 1 - pg 26; <b>Optimize CoC Analyte list for Eskimo Creek</b>	Proposed to regulators (Nov 2001). Letter sent on Jan 2002. ADEC Approval letter received May 2002. Contractor AAA implementing Task.
2	RSV Rept July 2001 pg 33; Univ of Alaska, Galena Aircraft Maintenance School Air Quality	Accepted for implementation by all stakeholders



# RPO Matrix

## Recommendation Status

<b>Action Item (OPR/POC)</b> <b>Action Item RPO Team</b>	<b>FY Program</b>	<b>Projected Outyears</b>
Basel/Hertzog - Present proposal to regulators EarthTech/Manish - Prepare modified LTM work plan and get approval. Implement MOD LTM work plan <b>RPO team - Review Work Plan &amp; provide field oversight</b>	O3	Programed through 2015
Basel/Hertzog - Contract & FREF %		





# ***RPO Matrix***

## ***Cost & Avoidance Information***

<b>RPO Estimated Cost Avoidance Annual/<b>Life Cycle</b></b>	<b>RPO Cost</b>	<b>Cost to Implement Recommendation</b>	<b>Documented Cost Avoidance Annual/<b>Life Cycle</b></b>
\$157K/ <b>\$2.4M</b>	\$30K	\$ 25K	\$ 78K/ <b>ISD</b>
N/A		\$ 50 K	N/A



# ***RPO Matrix***

## ***Risk and Time Issues***

<b>Risk Assessment Issues</b>	<b>Impact on Time to Cleanup</b>
Risk to students identified. Letter sent to school superintendent. RPO team recommends Risk Assessment	Interim remedial action taken to prevent vapors from entering building



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## ***METRICS***



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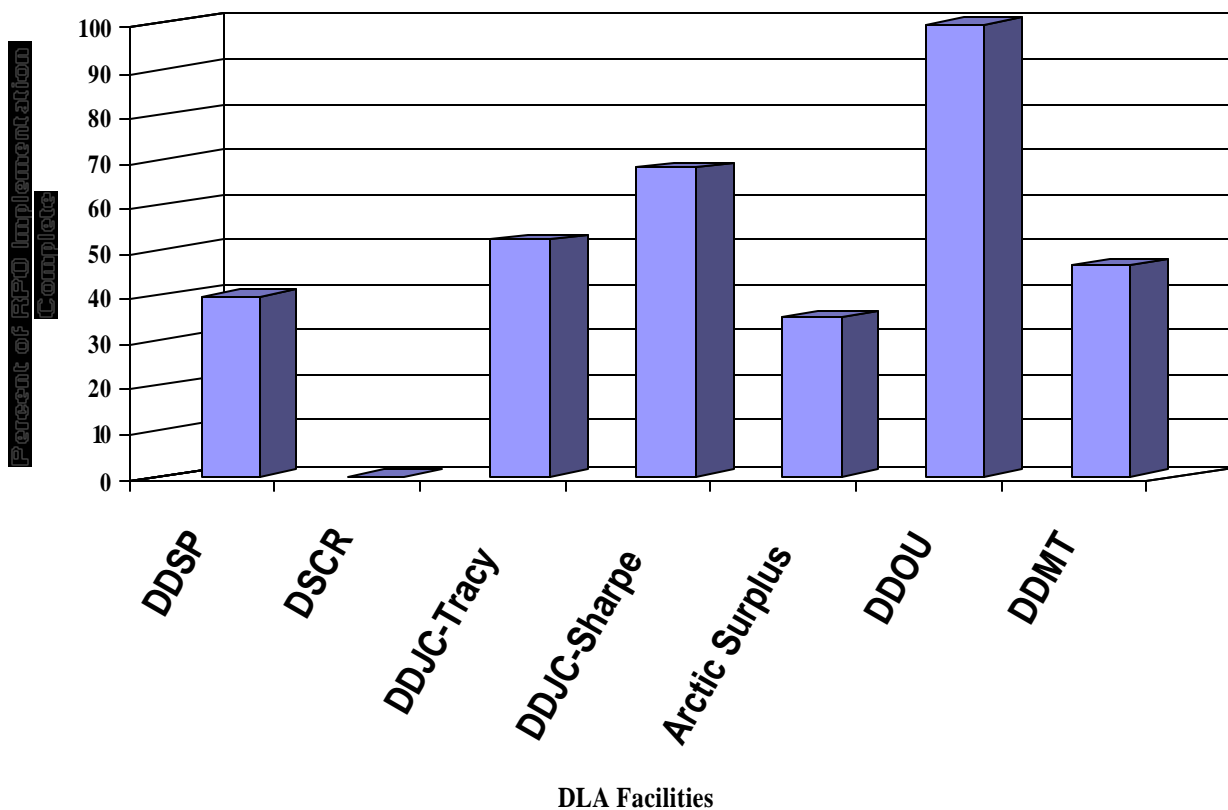


# ***RPO Matrix METRICS***

<b>Results Presented and Approved by Stakeholders Y/N</b>	<b>Implementation Contract Awarded Y/N</b>	<b>Implementation Work Plan Approved Y/N</b>	<b>LTM, RA-O Optimized Y/N</b>	<b>OPS NFA Y/N</b>	<b>Ratio RPO Metric Points/ Total Points</b>	<b>Completed or Liked to</b>
<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>N</b>	<b>N/A</b>	3 of 4	linked to 34
<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>N/A</b>	<b>N/A</b>	3 of 3	linked to 23 35, and 76

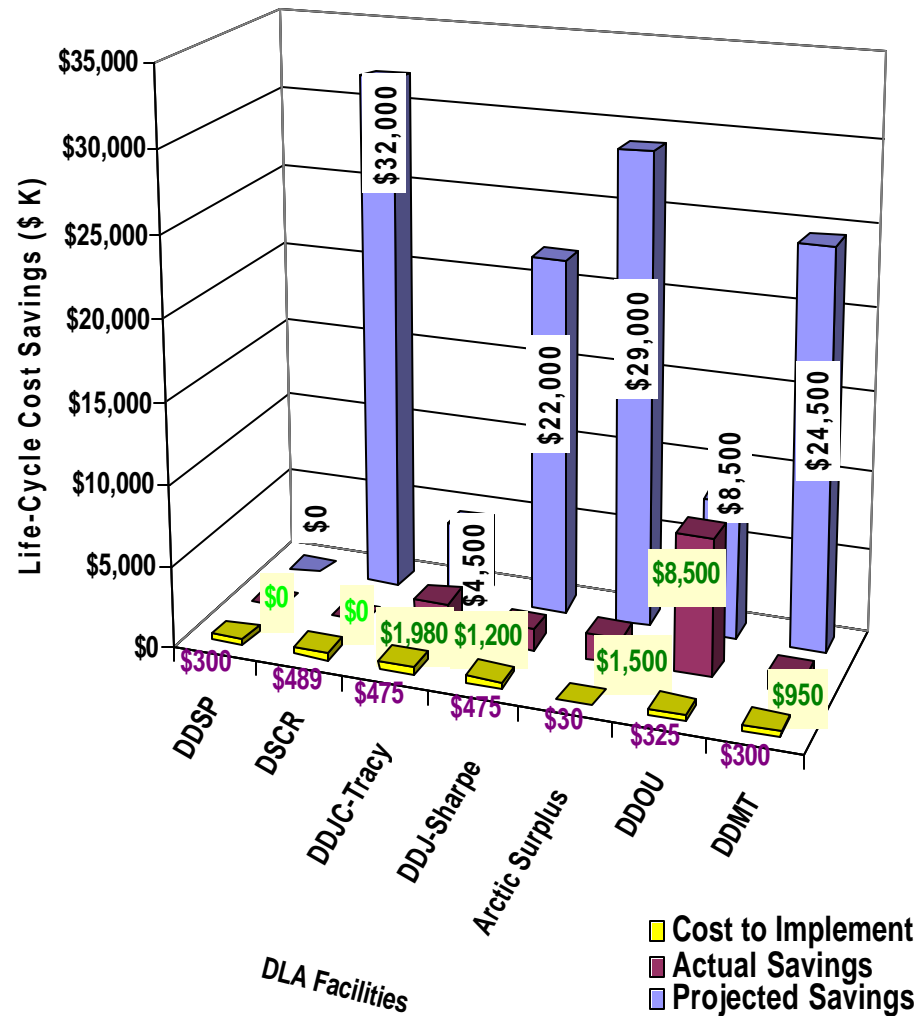


# ***RPO Progress at DLA Facilities***





# RPO Life Cycle Cost Avoidance at DLA Facilities



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## ROOT CAUSES







# Root Cause of Deficiencies

Deficiency	Root Cause	Solution	Impact on Project
Plume data may be available but not always tracked/analyzed	Lack of training	Incorporate tracking/modeling of COC concentrations into work planning documents	Facilitate interpretation of plume behavior
Decision logic (rules/trees) are seldom developed	Lack of training	Incorporate requirement for decision logic into project scoping document	Facilitate decision-making, and expedite site closure
Conceptual site models not updated or based on limited/poor data	Lack of training	Incorporate into scoping documents requirement to update CSM at specific points in project life-cycle	Better decisions will be made based on an accurate CSM
Restoration data and information not always accessible in electronic format	Contractor lacks capability, requirement not present in project scoping document	Require contractor to possess capability, scope electronic data deliverables into project requirements	Facilitate use of data to make decisions
Cost tracking and schedule to complete often inadequate to support decision making	Service center does not account for costs in a way that facilitates tracking cost data or life-cycle costs by site	Develop cost-tracking table and require service center to maintain table with accurate data	Facilitate funding decisions, as well as evaluation of alternatives
Exit Strategy not developed	Service center and field contractor not focused on exit strategy	Establish requirement to develop and update exit strategy in scoping document for project	Maintain focus on exit from site, shorten time to site closure